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# Industry Perspective

Nov 5, 2009

**Terrafore, Inc.** Riverside, CA

Consulting and Technology Development  
in  
Renewable Energy and Energy Efficiency

# Power Generation from Solar Energy

A Quick Overview

# Solar Photo Voltaic (PV) System

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# Concentrating Solar Power (CSP) Systems

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## Consulting & Engineering

- Solar PV, CPV and CSP systems
- Solar Heating and Cooling
- Energy Monitoring and Efficiency

## Research & Development

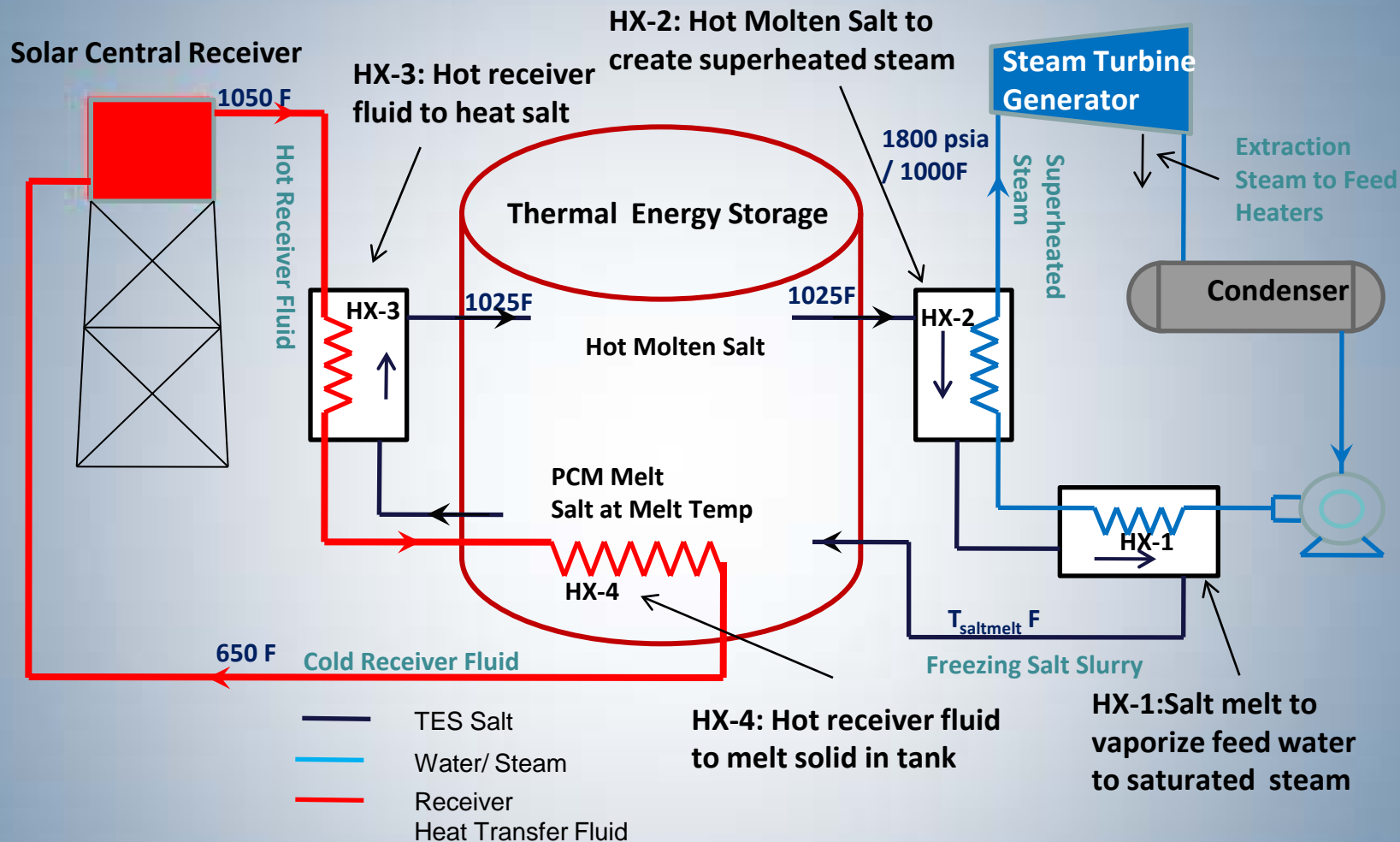
- High Temperature Solar Thermal Energy Storage
- Distributed CSP Systems

## Heat Transfer and Latent Heat Storage in Phase Change Material (Molten Salts) for Concentrating Solar Power (CSP) Plants

\$ 1.8 MM Department of Energy funded project, 3 Phases, 3 years

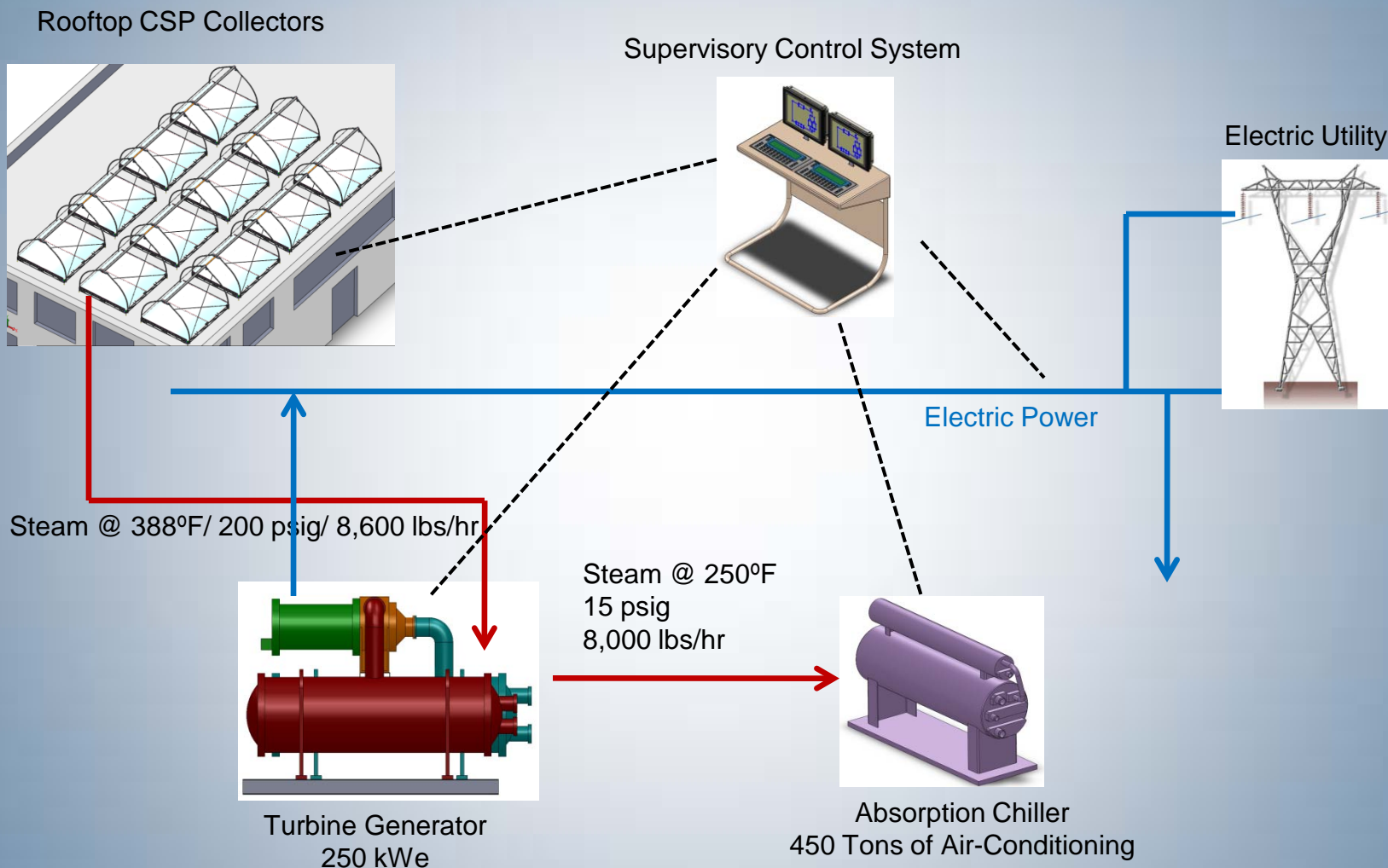
Team: Terrafore, UCR, JPL, P&W Rocketdyne

# Thermal Energy Storage Project



# Terrafore's Distributed Concentrating Solar Thermal (CSP) Concept

## Dispatchable, On-demand Power generation with Thermal Energy Storage





and

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# Possibilities

During Albert Einstein's active stint as a professor, one of his students came to him and said:

*"The questions of this year's exam are the same as last years'!"*

*"True," Einstein replied, "but this year all answers are different."*

## Alliances:

Industry, Research Institutions, National Laboratories,  
Local Government and Utilities

## Projects and Initiatives:

Renewable Energy Generation, Energy Efficiency  
Programs, Micro-Grids and Zero-Energy Enclaves, Joint  
Proposals for Federal and State Funding

## Local Impacts:

Economic impacts, Reducing Brain-Drain, Job Creation

## Recognition:

National and International Limelight



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Located in Fort Collins, CO

### FortZED:

Growing to be the world's largest active zero energy district

FortZED is a set of active projects and initiatives, created by public-private partnerships, which uses Smart Grid and renewable energy technologies to achieve local power generation and energy demand management.



Located in downtown Fort Collins, Colorado, FortZED is a collaborative effort, sharing best practices at the state, regional, national, and global levels.

### Great Partnerships, Great Benefits, Great Start

From the Northern Colorado Clean Energy Cluster to Colorado State University's research and lab experiments,

### BENEFITS OF FORTZED:

- It's a major Smart Grid infrastructure project that will modernize and transform the electrical distribution system
- It showcases the capabilities of the region's top clean tech companies
- It's a huge community partnership
- It's in an established, historic downtown area
- It includes the main campus of Colorado State University
- It will attract new clean energy companies and jobs
- It will lessen our dependence on traditional electric grid resources and technologies



### Faces of FortZED

Jenn Orgolini  
FortZED Project Director New Belgium Brewery



# Sakura at Sendai Microgrid



## *Going forward:*

- Continue to pursue joint R&D projects and funding opportunities
- Partner with other educational institutions, the city and utilities
- Help create a world-class facility for Solar Energy research

It's not about the path to clean  
energy.

Clean energy is the path.

*thank you.*

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